

Appliance and Product Standards

Policy Summary: The federal government, through the Department of Energy (DOE), is authorized to set energy efficiency standards for most major appliances, electronics, and other products. The DOE accelerated the rulemaking schedule for setting new standards between 2009 and 2013 which yielded several new standards, though the majority of savings will occur after 2020. In 2015, progress continues in setting new federal appliance standards. Nationwide, these are expected to yield major savings in both electricity and fuel costs for homeowners and businesses, and commensurate reductions in greenhouse gas emissions, with Massachusetts getting its proportional share.⁵²

Massachusetts also has the option of setting its own appliance efficiency standards on the modest set of products not covered by federal action. State-level efficiency standards could generate a smaller set of additional savings on energy bills and emissions. These would require new legislation, and a couple of years to introduce. As a result, the energy savings would primarily accrue in the decades following 2020.

	Savings from full policy implementation	% of 1990 level
Economy-wide GHG reductions in 2020	1.0 MMTCO ₂ e	1.1%
Electric savings and GHG reductions in 2020	2,105 GWh ⁵³ 0.9 MMTCO ₂ e	1.0%
Natural gas savings and GHG reductions in 2020	1,628 billion Btu 0.1 MMTCO ₂ e	0.1%%

Clean Energy Economy Impacts: The reduction in lifetime costs by 2020, estimated by the Appliance Standards Awareness Project (ASAP) at over \$350 million, are spread broadly across residents and businesses in Massachusetts. These energy savings will improve the cost of living for residents and reduce operating costs for businesses, making those funds available for more productive investments that help to keep jobs in the Commonwealth.

Rationale: As with most efficiency measures, appliance and product efficiency faces market barriers that result in consumers making short-term purchasing decisions that don't reflect optimal financial decisions long-term. To some degree, this occurs because products, particularly appliances, are often bought on an emergency basis when an old item has failed. By updating product specifications based on producer best practices that reduce lifecycle costs without substantial capital cost increases, federal and state standards reward manufacturer innovation. In turn, consumers save through both lower capital costs for higher performing equipment and on energy costs over the lifetime of the equipment. Over time as the existing

⁵² http://www.appliance-standards.org/sites/default/files/Progress_toward_3_billion_CO2_reduction_Sept_2015.pdf

⁵³ 2015 update from Marianne DiMascio of the Appliance Standards Awareness Project

stock of appliances turns over, these appliance standards drive large energy and greenhouse gas savings.

Policy Design and Issues: The federal government sets nationwide standards but, in some cases, those standards do not meet the climate-specific needs of individual states. Due to our colder climate and market demand for higher efficiency equipment, Massachusetts applied for a federal waiver to set a standard for gas furnaces higher than the 80 percent federal standard. The DOE denied Massachusetts' waiver request, but is now in the process of developing a higher national standard that is expected to provide future savings once implemented.

GHG Impact: The ASAP forecasts that the standards already adopted since 2010 or scheduled to take effect before 2020 will collectively reduce annual GHG emissions by over 1.1 MMTCO₂e in 2020. The Massachusetts GHG inventory uses more state specific emission factors for 2020, and, accordingly, the forecast GHG emission benefits has been revised to 1.0 MMTCO₂e to reflect this.

Other Benefits: The standards yield large savings in electricity, and spread costs broadly across the economy. The avoided criteria air pollution emissions also have significant public health benefits.

Costs: Incremental costs of production vary for each product, and are required to be less than the lifetime energy savings in each case in order for DOE to set a standard. Sample allowable incremental production costs are \$52 for a refrigerator, \$50 for a clothes dryer, and \$2 for microwave ovens. Actual manufacturer implementation costs typically turn out to be significantly lower than the estimates forecasted by DOE as manufacturers and suppliers innovate.

Experience in Other States: Most standards are applied either nationally or regionally. California employs a policy of setting appliance efficiency standards not set by the federal government. Most state-level activities involve passing legislation to adopt standards based on California's standards and analyses.

Potential Next Steps: The federal government has preempted authority over all of Massachusetts' historical efficiency standards for products. Unless the Commonwealth applies for a waiver from a federal standard, Massachusetts must pass legislation to take further action on the topic. A bill based on California's most recent analysis on energy savings has been filed in the Massachusetts General Court in 2015, and this or similar legislation would need to be passed in order to add state appliance standards to the larger set of federal standards.

Uncertainty: Although the pace of federal rulemaking has hastened considerably, uncertainty remains about the effective dates of scheduled Federal rules or the likelihood of state legislation.